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10/506,560	09/02/2004	Leif Petersen	CM00443C	1302

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EXAMINER
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CHEN, JUNPENG

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/506,560

Applicant(s)

PETERSEN, LEIF

Examiner

Junpeng Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/02/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 09/02/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 371 and 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement submitted on September 02, 2004 has been considered by the Examiner and made of record in the application file.

### ***Drawings***

3. The drawings are objected to because in Figure 4, "Operator 29" should be named as "Operator 13" to be consistent with the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top

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margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed features such as signal peak monitor, converters, and digital signal processor in claim 11, storing device as in claim 14, class C configuration modified as in claim 16, and two amplifying devices as in claim 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

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Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. The disclosure is objected to because of the following informalities:
  - b) On **line 9** of **page 1**, replace "it relates it relates" with --it relates--;Appropriate correction is required.

### ***Claim Objections***

6. Claim 1, 11, 12 and 13 are objected to because of the following informalities:
  - a) On **lines 3** of **claim 1**, insert --,-- after "input terminal";
  - b) On **line 2** of **claim 11**, replace "secnd" with --secnd-- after "applying to the";
  - c) On **line 2** of **claim 12**, replace "secnd" with --secnd-- after "applying to the";
  - d) On **line 2** of **claim 13**, replace "secnd" with --secnd-- after "applying to the";Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-2, 4-10, 18-20, 22 and 24** are rejected under 35 U.S.C. 102(b) as being anticipated by **Sokal et al. (U.S. Patent 3,900,823)**.

Consider **claim 1**, Sokal discloses an RF amplifier circuit comprising an RF amplifying device (*read as power amplifier 1 with comparator function, line 64 of column 24 to line 50 of column 25*) having

a first input terminal (*read as the input of power amplifier 1 that accepts INPUT, Figure 1*),

a second input terminal (*read as the cutoff voltage that is controllable by dc bias, Figures 1, 11A-11B, line 64 of column 24 to line 50 of column 25*),

an output terminal (*read as output of power amplifier 1, Figure 1*),

means for applying to the first input terminal an input RF signal I to be amplified (*read as the inherently existing element that supplies INPUT, Figure 1*),

means for generating and applying to the second input terminal a threshold signal T (*read as a inherently existing processing unit, which comprises power output control 8 and Diff. Amplifier 4, that generates and applies a signal to power amplifier 1, Figures 1, 11A-11B*), and

the amplifying device being operable to produce at the output terminal an output signal O which has a high finite value providing a Boolean `1` value when the instantaneous value of the amplitude of I is greater than the threshold signal T and a low finite value providing a Boolean `0` value when the instantaneous value of the amplitude of the input RF signal I is less than the threshold signal T (*read as the comparator function in as shown in Figures 10A-10F is performed by amplifier stage of*

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*power amplifier 1 and the output of the comparator is "on" or "off", Figures 10A-10F, lines 27-68 of column 24),*

wherein the threshold signal T is dynamically varied in a manner adapted to linearize the relationship in at least part of its range between the amplitude of the output signal O and the amplitude of the input RF signal I (*read as the cutoff voltage that is controllable by dc bias that is from the inherently existing processing unit and the above power amplifier is a linear amplifier and the linear relation between the output and input RF amplitudes would be obtains, Figure 1, line 64 of column 24 to line 50 of column 25, lines 3-42 of column 6).*

Consider **claim 2, as applied to claim 1 above**, Sokal further discloses wherein the means for generating and applying to the second input terminal a threshold signal T is operable to apply a non-constant transfer function to a signal representative of the input RF signal (*read as the amplitude and phase transfer function of the input signal is controllable, meaning, it is adjustable and non-constant, abstract).*

Consider **claim 4, as applied to claim 1 above**, Sokal further discloses wherein the output terminal is connected to a low pass filter operable to filter out harmonics higher than the first harmonic in the output signal O (*read as RF harmonics of the output is eliminated by low-pass filtering, lines 36-48 of column 5).*

Consider **claim 5, as applied to claim 1 above**, Sokal further discloses wherein the threshold signal T is controlled to be a variable signal having a constant sign (*read as read as the cutoff voltage that is controllable by dc bias and since this is for a linear*

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*amplifier 1 and the current is only in one direction, the bias would not reversed and thus would have constant sign, Figure 1, line 64 of column 24 to line 50 of column 25).*

Consider **claim 6, as applied to claim 1 above**, Sokal further discloses wherein the threshold signal T is in operation dynamically varied as a function of the input RF signal I by sampling the input RF signal I prior to application to the amplifying device, the means for generating and applying to the second input terminal a threshold signal T including a feed forward loop which includes means for deriving at least part of the threshold signal T from the input RF signal I (*read as the dc bias is obtained by using the samples from sample and hold circuit which samples the RF input signal in a feed forward loop, where an example of simple feed forward loop is shown in Figure 1, which comprises an Amplitude Detector 5, processing unit (comprising Diff. Amplifier 4 and Power output Control 8), and power amplifier 1, Figure 1, lines 27-64 of column 24).*

Consider **claim 7, as applied to claim 1 above**, Sokal further discloses wherein the threshold signal T is dynamically varied as a function of the output signal O by sampling the output signal O produced by the amplifying device, and wherein the means for generating and applying to the second input terminal a threshold signal T further comprises a feedback loop which derives a signal in part from the sampled output signal O (*read as the dc bias is obtained by using the samples from sample and hold circuit (Amplitude Detector 2) which samples the output signal in a feedback loop, where an example of simple feedback loop is shown in Figure 1, which comprises an Attenuator 3, Amplitude Detector 2, processing unit (comprising Diff. Amplifier 4 and*



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*Power output Control 8), and power amplifier 1, Figures 1, 11A-11B, line 3 of column 5-33 of column 5).*

Consider **claim 8, as applied to claim 1 above**, Sokal further discloses wherein the means for generating and applying to the second input terminal a threshold signal T is operable to produce from the input RF signal I a signal which is related to an envelope of the input RF signal I *(read as the dc bias is obtained by using the samples (related to amplitude/envelope) from sample and hold circuit which samples the RF input signal in a feed forward loop, where an example of simple feed forward loop is shown in Figure 1, which comprises an Amplitude Detector 5, processing unit (comprising Diff. Amplifier 4 and Power output Control 8), and power amplifier 1, Figure 1, lines 27-64 of column 24).*

Consider **claims 9 and 10, as applied to claim 1 above**, Sokal further discloses wherein the means for generating and applying to the second input terminal a threshold signal T further comprises a digital signal processor operable to calculate from modulation information applied to produce the input RF signal I a form of the input RF signal I as in claim 9 and wherein the circuit further comprises a digital signal processor operable to produce modulation information for use in modulation to form the input RF signal I and also to carry out calculations using the modulation information to derive at least part of the threshold signal T as in claim 10 *(read as the amplifying apparatus by Sokal inherently having a processor to use the modulated (amplitude and/or phase modulated) INPUT to determine the dc bias, Figure 1, line 3 of column 5-33 of column 5, lines 27-64 of column 24).*

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Consider **claim 18, as applied to claim 1 above**, Sokal further discloses wherein in operation the threshold signal T is applied as a variable bias to the amplifying device or is combined with the input RF signal I at an input to the amplifying device (*read as the cutoff voltage of the power amplifier 1 that is controllable by dc bias that is from the inherently existing processing, Figure 1, line 64 of column 24 to line 50 of column 25, lines 3-42 of column 6*).

Consider **claim 19, as applied to claim 1 above**, Sokal further discloses wherein the amplifier circuit includes at least two amplifying devices mutually connected in series or in parallel (*read as power amplifier 1 and Diff. Amplifier 4, Figure 4*).

Consider **claim 20, as applied to claim 1 above**, Sokal further discloses wherein the amplifier circuit is used in a communications transmitter (*read as Sokal's invention is for radio communications or transmitting systems, lines 42-46 of column 1*).

Consider **claim 22, as applied to claim 1 above**, Sokal further discloses wherein the amplifier circuit is operable to employ phase modulated RF signals (*read as Sokal's invention comprises an phase modulator and has phase modulated RF signals, line 3-8 of column 4*).

Consider **claim 24, as applied to claim 1 above**, Sokal discloses the amplifier circuit which is such that a plot of amplitude of the output signal O against amplitude of the input RF signal I is linear (*read as the output signal 13 is very nearly proportional to the input signal 7, and the amplifier system is very nearly linear, lines 40-47 of column 5*).

However, Sokal fails to specifically disclose that the amplifier circuit is operable to provide a linear response in an output signal strength range of at least 70dB.

Nonetheless, the amplifier system by Sokal is very nearly linear; it would be capable to provide a linear response in an output signal strength range of at least 70dB.

Therefore, it would have been obvious for a person with ordinary skill in the art at the time the invention was made to use Sokal's invention to provide a linear response in an output signal strength range of at least 70dB because the amplifier system is very nearly linear.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 3 and 15-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sokal et al. (U.S. Patent 3,900,823)**.

Consider **claim 3, as applied to claim 1 above**, Sokal further discloses the amplifier circuit which has a bandwidth greater than the mean operating frequency of the input RF I signal which it is operable to amplify (*read as the  $f_s$  of amplifier 1 is 2 times as large as the instantaneous radio frequency, Figures 10A-10F, lines 27-35 of column 24 and lines 34-50 of column 25*).

However, Sokal fails to disclose that the amplifier has a bandwidth that is at least five times greater than the operating frequency of the input RF I signal.

Nonetheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to design the amplifier to have a bandwidth that is at least five times greater than the operating frequency of the input RF I signal, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Consider **claim 15, as applied to claim 1 above**, Sokal discloses the amplifier circuit which is such that a plot of amplitude of the output signal O against amplitude of the input RF signal I is linear (*read as the output signal 13 is very nearly proportional to the input signal 7, and the amplifier system is very nearly linear, lines 40-47 of column 5*).

However, Sokal fails to specifically disclose that it is linear over at least 90% of its range.

Nonetheless, the amplifier system by Sokal is very nearly linear, the examiner interprets it as it is linear over at least 90% of its range in a plot of amplitude of output signal O against amplitude of the input RF signal is linear.

Therefore, it would have been obvious for a person with ordinary skill in the art at the time the invention was made to plot the amplitude of the output signal O against amplitude of the input RF signal I of Sokal's amplifier system and obtain a plot which it is linear over at least 90% of its range because the amplifier system is very nearly linear.

Consider **claim 16, as applied to claim 1 above**, Sokal discloses wherein the amplifying device employed in the circuit is arranged in a class C configuration so that in operation the input RF signal I and the threshold signal T are applied together via separate input terminals to the electrodes of the amplifying device (read as power amplifier would be a class C amplifier and the dc bias level and RF input drives magnitude supplied to the control electrodes of the amplifier, lines 46-55 of column 19, lines 5-10 of column 23, lines 20-25 of column 23, and lines 5-10 of column 25).

However, Sokal fails to specifically disclose that the two separate input terminals to be combined at a single electrode of the amplifying device.

Nonetheless, it would have been an obvious matter of design choice to design two separate input terminals to be combined at a single electrode of the amplifying device since the applicant has not disclosed that having two separate input terminals to be combined at a single electrode of the amplifying device solves any stated problem or

is for any particular purpose and it appears that the invention would perform equally well with the two separate input terminals to electrodes of the amplifying devices.

Consider **claim 17, as applied to claim 1 above**, Sokal discloses the above claimed invention but fails to disclose wherein the amplifying device comprises a solid state amplifying device.

However, the Examiner take Office Notice of the fact that solid state amplifier are widely used in the art for its well-known advantage of low power consumption.

Therefore, it would have been obvious for a person with ordinary skill in the art at the time the invention was made to use solid-state power amplifier in Sokal's invention for the purpose of low power consumption.

**Claims 11-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sokal et al. (U.S. Patent 3,900,823)** in view of **Hotta et al. (U.S. Patent 4,803,440)**.

Consider claim 11, as applied to claim 1 above, Sokal discloses the claimed invention above and means for generating and applying to the second input terminal a threshold signal T and a signal peak monitor which is operable to measure a value of a peak of a signal being sampled and produces a peak envelope signal (read as amplitude detector 2, Figure 1).

However, Sokal fails to disclose the means for generating and applying the second input terminal a threshold signal T further comprising: an analogue to digital converter which is operable to digitize the peak envelope signal; a digital signal processor which is operable to apply a transform function to the digitized peak envelope

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signal; and a digital to analogue converter which is operable to convert the digitally transformed signal produced by the digital signal processor back into a waveform suitable for use as the threshold signal T.

However, in related art, Hotta discloses a control circuit which receive output from Power amplifier 3, and having a amplitude detector 42, A/D converter 43, Microprocessor having a CPU and RAM/ROM, D/A converter, and to control the power, Figures 1, 1A and 2, line 12 of column 4 to line 39 of column 6.

Therefore, it would have been obvious for a person with ordinary skill in the art at the time the invention was made to incorporate the teachings of Hotta et al. into the teachings of Soka et al. to use the control circuit by Hotta for the purpose of automatically controlling the power of the power amplifier.

Consider **claim 12, as applied to claim 11 above**, Sokal, as modified by Hotta, further discloses wherein the means for generating and applying to the second input terminal a threshold signal T further comprises an amplifier or a plurality of amplifiers to amplify the signal to produce a the threshold signal T which is variable (*read as a inherently existing processing unit, which comprises power output control 8 and Diff. Amplifier 4, that generates and applies a signal to power amplifier 1, and this signal is related to the cutoff voltage and is controllable by dc bias, Figure 1, line 64 of column 24 to line 50 of column 25, lines 3-42 of column 6*).

Consider **claim 13, as applied to claim 11 above**, Soka, as modified by Hotta, further discloses wherein the mean for generating and applying to the second input terminal a threshold signal T is operable to apply proportional, derivative and integral

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control to produce the threshold signal T (read as the output RF signal is proportional to the amplitude of the input RF signal, therefore, PID method could be used, lines 29-36 of column 3, lines 20-27 of column 5 and lines 40-47 of column 5)

Consider **claim 14, as applied to claim 11 above**, Sokal, as modified by Hotta, fails to disclose the RF amplifier circuit which stores corresponding values of the signal before and after application of the transfer function.

However, in related art, Hotta's disclosure of a power control circuit above comprises a RAM/ROM, which is for storing data.

Therefore, it would have been obvious for a person with ordinary skill in the art at the time the invention was made to incorporate the teachings of Hotta into the teachings of Sokal to use the RAM/ROM by Hotta to store the corresponding values for the purpose of storing wanted data.

**Claims 21 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sokal et al. (U.S. Patent 3,900,823)** in view of **Gourgue et al. (U.S. Patent 5,625,322)**.

Consider **claim 21, as applied to claim 2 above**, Sokal discloses wherein the amplifier circuit is for transmitting system (lines 42-46 of column 1) but fails to specifically disclose it is used in a mobile station or a base transceiver station.

Nonetheless, in related art, Gourgue discloses the use of a power amplifier in a cellular mobile system, which is for TERTA system, lines 4-15 of column 1.



Therefore, it would have been obvious for a person with ordinary skill in the art at the time the invention was made to incorporate the teachings of Gourgue into the teachings of Sokal use Sokal's amplifying apparatus in a cellular mobile system in a TERTA system for the reason of obtaining high linearity relationship between the input and output of the amplifying apparatus.

Consider **claim 23, as applied to claim 2 above**, Sokal discloses wherein the amplifier circuit is for transmitting system (lines 42-46 of column 1) but fails to specifically disclose wherein the amplifier circuit is incorporated in a mobile station or base transceiver station for use in a mobile communications system operable according to TETRA standards.

Nonetheless, in related art, Gourgue discloses the use of a power amplifier in a cellular mobile system, which is for TERTA system, lines 4-15 of column 1.

Therefore, it would have been obvious for a person with ordinary skill in the art at the time the invention was made to incorporate the teachings of Gourgue into the teachings of Sokal use Sokal's amplifying apparatus in a cellular mobile system in a TERTA system for the reason of obtaining high linearity relationship between the input and output of the amplifying apparatus.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sundstrom; Lars	US 6593812 B2	Automatic optimization of linearity for envelope feedback RF amplifier linearization
Butler; Brian K.	US 5710521 A	Out-of-band compensation for non-linear device
Wendt; Peter et al.	US 5194823 A	Modulation means for an RF power amplifier

11. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junpeng Chen whose telephone number is (571) 270-1112. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Junpeng Chen  
J.C./jc

November 14, 2006

EDAN ORGAD  
PATENT EXAMINER/TELECOMM.

*Edan Orgad 11/27/06*